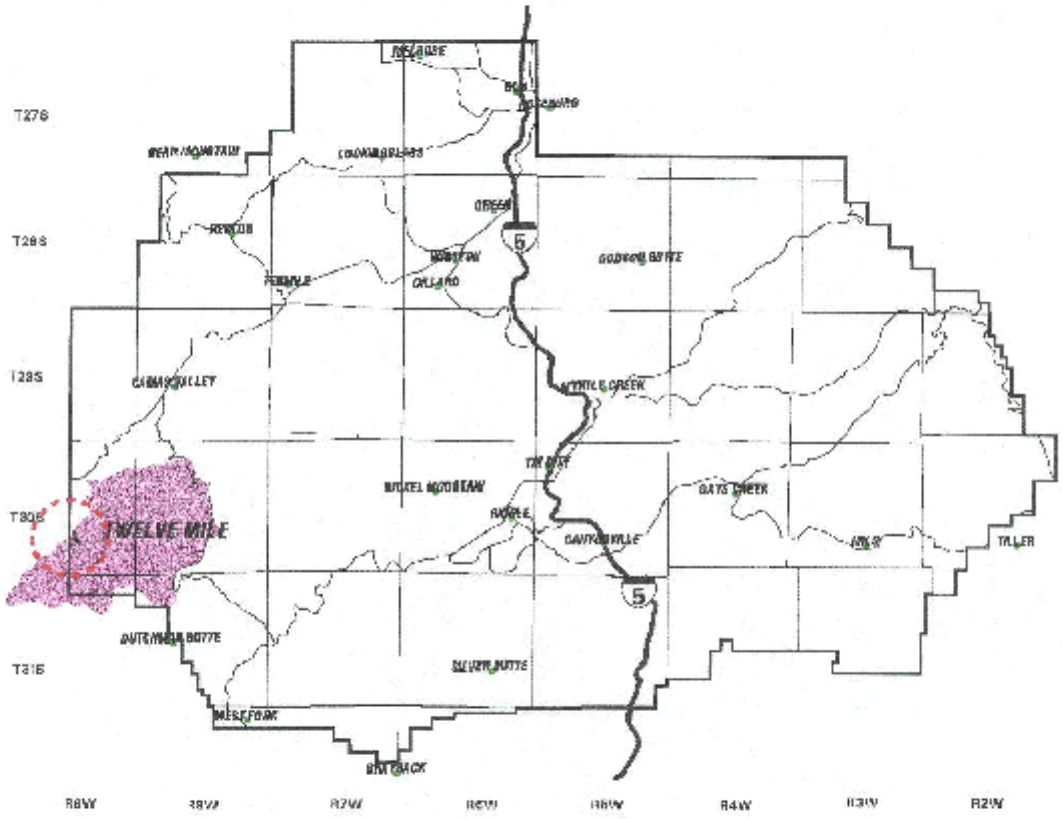
# Kola's Ridge Thinning
## South River Resource Area

### T30S-R9W Sec. 27

### EA # OR 105-98-12




Project Area

Interstate 5

State and County Highways

Resource Area Boundary

Watershed Boundary

Timber Sale Units

Roseburg District

July 29, 1998

U.S. Department of the Interior, Bureau of Land Management
Roseburg District Office
777 NW Garden Valley Blvd.
Roseburg, Oregon 97470

Comments, including names and street addresses of respondents, will be available for public review at the above address during regular business hours, 8:00 A.M. to 4:30 P.M., Monday through Friday, except holidays. Individual respondents may request confidentiality. If you wish to withhold your name or street address from public review or from disclosure under the Freedom of Information Act, you must state this prominently at the beginning of your written comment. Such requests will be honored to the extent allowed by the law. All submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, will be made available for public inspection in their entirety.

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## Chapter 5

# Chapter 1
# PURPOSE AND NEED FOR ACTION

The South River Field Office Area of the Roseburg District of the Bureau of Land Management (BLM), proposes a commercial thinning of approximately 67 acres in Section 27 of T. 30 S., R. 9 W. and the development of a quarry to provide aggregate for road surfacing as part of restoration activities planned within the watershed. The proposed projects are located within the Middle Fork Coquille Analytical Watershed. The proposed thinning is located in the General Forest Management Area (GFMA) of the Matrix land use allocation as described in the Roseburg District Record of Decision and Resource Management Plan (ROD/RMP, June 1995) which is tiered to and incorporates the analysis contained in the Final Supplemental Environmental Impact Statement on Management of Habitat for Late-Successional and Old-Growth Related Species Within the Range of the Northern Spotted Owl and the Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl (ROD, April 13, 1994). The ROD states that most timber harvest and other silvicultural activities would be conducted in that portion of the Matrix with suitable forest lands. The thinning would be designed to control stand density and maintain stand vigor, and would conform to standards and guidelines contained in the Roseburg District ROD/RMP.

The purpose of this environmental assessment (EA) is to analyze the potential environmental consequences which could result from the implementation of the proposed action. This environmental analysis serves to provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement (EIS) or a finding of no significant impact (FONSI).

## I. Decisions To Be Made

1. Which stands within the project area are most suited to application of a commercial thinning treatment?

2. What are the objectives of the proposed thinning, and how will the marking prescription reflect those objectives?

3. What site specific project design features would be necessary to meet standards and guidelines contained in the Roseburg District Record of Decision and Resource Management Plan (ROD/RMP) and meet the objectives of the Aquatic Conservation Strategy?

## II. Permits, Licenses, Laws, Requirements, Policies, & Other Related Considerations

1. Under the Endangered Species Act (ESA), the action requires consultation with the United States Fish and Wildlife Service for potential effects to the marbled murrelet and the National Marine Fisheries Service (NMFS) for the Oregon Coast coho salmon Evolutionary Significant Unit (ESU).

2. The State Historic Preservation Office (SHPO) will be contacted for concurrence with the evaluation of the project in the event that resources of cultural or historical significance are present in the project area, relative to requirements of the National Historic Preservation Act.

3. The proposed project is within the Coastal Zone Management Area. There are no registered water rights within one mile downstream of the project area.

4. None of the proposed units are within 1/4 mile of lands zoned R-5 for 1 to 5 acre residential lots and designated for Rural Interface objectives by the RMP.

## III. Harvest Unit Selection/Preliminary Project Identification

The areas proposed for thinning were selected following a screening process which looked at potential commercial thinning units with minimal numbers of acres located in Riparian Reserves. A first iteration of Watershed Analysis for the Middle Fork Coquille watershed considered in the analysis was completed in July, 1994, by the Coos Bay District BLM.

The proposed action would involve commercial thinning which would not involve harvest of any late-successional or old-growth forest stands and would not be affected by the requirement to retain 15% of federal lands in fifth field watersheds (20-200 sq. miles), as late-successional forest (ROD/RMP, p. 34).

## IV. Concerns/Issue

The Interdisciplinary Team identified concerns relative to fisheries, wildlife, hydrology, botanical and soils that had the potential of being affected by the proposed action. Concerns were mitigated through project design and application of Best Management Practices (BMP) listed in the ROD/RMP (Appendix D). There were no issues identified which would require development of additional action alternatives beyond the proposed action. The Critical Elements of the Human Environment were considered and are summarized in Appendix D of this document.

## V. Considered and Eliminated From Further Analysis

1. The 30-9-23.5 road is a natural surface road located in T. 30 S., R. 9 W., Section 23, in proximity to the identified haul route for the proposed thinning sale. Portions of the road, which is experiencing surface erosion problems, are located within a Riparian Reserve. It was proposed that this road be subsoiled and seeded with grass to reduce erosion and restore normal water flow patterns. The Interdisciplinary Team concluded that the first iteration Middle Fork Coquille watershed analysis compiled by the Coos Bay District was inadequate to support local management and/or restoration activities within Riparian Reserves This determination was made based on a lack of the following data deemed necessary to support decisions relative to meeting Aquatic Conservation Strategy (ACS) objectives. Decommissioning of this road would be reconsidered when watershed analysis is updated and amended to include the following information:

A. Riparian Reserve maps, table of acres by stand age class and composition in Riparian Reserves, and miles of roads in the Riparian Reserves.
B. Descriptions of major vegetative characteristics and composition within the Riparian Reserve network.
C. Large-scale Rosgen stream classification.
D. List of species known or thought to occur within the watershed that are strongly influenced by Riparian Reserve management.
E. Riparian Reserve maps of the watershed ranking areas of higher and lower relative importance for physical and biological values.

2. Density management was proposed within the Riparian Reserves to reduce stocking and accelerate the development of late-successional forest characteristics. Within the Riparian Reserves, a 90-foot "no entry" buffer would have been established in which no density management would occur, with density management applied to the outer 90 feet of the Riparian Reserves (90-180 feet).

   As noted above, the discussion of Riparian Reserve conditions contained in the first iteration Middle Fork Coquille Watershed Analysis was insufficient to support any recommendations for density management within the Riparian Reserves.

3. An existing quarry site along Road No. 30-9-23.3 in Section 27 of T. 30 S., R. 9 W. was proposed for expansion. The existing quarry would have been enlarged to approximately 1 acre in size. The purpose of the quarry expansion was to provide a source of rock for currently proposed road renovation and future maintenance of roads in area. Expansion would have required removal of approximately 12 to 15 merchantable trees. Based on the proximity of the proposed quarry expansion to unsurveyed potentially suitable marbled murrelet habitat, the action was dropped from consideration at this time. An alternative site was proposed and will be discussed in this analysis.

# Chapter 2
# DISCUSSION OF ALTERNATIVES

## I. Alternative 1-No Action

There would be no commercial thinning actions taken in the candidate stands at this time. No road construction or quarry expansion would occur unless specifically addressed and authorized under a future analysis.

Proposed road renovation, road decommissioning or slide removal would require separate analysis and would need to be accomplished under separate authorizations. Supplies of aggregate materials necessary for road resurfacing, splash pad installation below culverts, and buttressing of unstable cut and fill slopes would need to be procured from commercially available sources.

## II. Alternative 2-Proposed Action

Under this proposal, 3 units located in Section 27 of T. 30 S., R. 9 W. and totaling approximately 67 acres would be thinned from below. Dominant and co-dominant trees would be favored for retention in application of the marking prescription. Approximately 0.9 million board feet (MMBF), equivalent to approximately 1,670 hundred cubic feet (CCF), would be harvested. Harvest would be accomplished using skyline cable-yarding systems with one-end suspension and lateral yarding. Contract operations would be limited to the dry season typically identified as the period between May 15 and October 15. In order to avoid damage to reserved trees during the bark-slip period, thinning activities would be further restricted. No timber felling, bucking, or yarding activities would be authorized before July 15.

The objective of thinning would be to develop and maintain a stand density of 80-110 trees per acre to reduce mortality within the stands and provide growing conditions for remaining trees to develop better crown ratios and larger average diameters. This relative density would be within the optimal range for growth of Douglas-fir. Crown closure after thinning would still exceed 50%. Unit prescriptions would vary based on existing stand conditions. Thinning would generally be from below and would remove smaller diameter trees. Hardwoods would be reserved from harvest if greater than 12" diameter at breast height (dbh), if needed to maintain desired spacing, or if present in large clumps. Remnant old-growth and snags that do not pose a safety risk would be retained. Marking guidelines and individual unit descriptions are contained in Appendix B of this document. Table 1 summarizes the proposed action.

## TABLE 1 - SUMMARY OF ALTERNATIVE 2

**(All values are approximate)**

| UNIT | AC. | LUA | YARDING METHOD | | ROAD CONSTRUCTION/ RENOVATION (MILES) | | |
|---|---|---|---|---|---|---|---|
| | | | Cable Ac. | Tractor Ac. | renovation (natural) | renovation* (rock) | temporary (natural) |
| A | 40 | GFMA | 40 | 0 | .50 | * | .18 new |
| B | 16 | GFMA | 16 | 0 | .39 | * | 0 |
| C | 11 | GFMA | 11 | 0 | .17 | * | 0 |
| **Totals** | **67** | | **67** | **0** | **1.06 renov** | ***** | **.18 new** |
| **Estimated Timber Volume Yield 900(MBF)= 1670(CCF)** | | | | | | | |

* If funding permits, portions of, or the entire jeep road would be rocked after harvest is completed.

The site-potential tree height for the Middle Fork Coquille watershed has been determined to equal 180 feet. Riparian Reserves would be established where required using a one site-potential tree height on either side of nonfish-bearing streams. There are no fish-bearing streams in the project area.

Three temporary spurs would be necessary to facilitate the thinning of Unit A. These spur roads would be naturally surfaced and would be constructed, used, and fully decommissioned in the same dry season. The remaining units would be yarded to existing aggregate surfaced roads. Approximately 11.0 miles of existing road is proposed for renovation/upgrading to accommodate timber hauling. Table 2 summarizes proposed road work.

**TABLE 2**
**ALTERNATIVE 2 - SUMMARY OF PROPOSED ROAD WORK**
**(All values are approximate)**

| ROAD No. | RENOVATION/ NEW CONST. | SURFACE | LENGTH (miles) | DECOMMISSION | FUNDING |
|---|---|---|---|---|---|
| spur 1 | new const. | natural | .03 | yes | timber sale |
| spur 2 | new const. | natural | .02 | yes | timber sale |
| spur 3 | new const. | natural | .13 | yes | timber sale |
| 30-9-17.0 | renovation | rock | 5.5 | no | BLM or timber sale |
| 30-9-23.3 | renovation | rock | 2.6 | no | JITW or BLM |
| 30-9-24.0 | renovation | rock | 1.3 | no | JITW or BLM |
| 30-9-27.0 | renovation | rock | .66 | no | JITW or BLM |
| Jeep Rd. along | renovation | natural | .89 | no | JITW |
| Jeep Rd. along | renovation | natural | .17 | no | JITW |
| TOTALS | | | .18 new<br>11.1 reno | | |

* If funding permits, portions of, or entire jeep road would be rocked after harvest is completed.

NOTE:
- Approximately .18 miles of temporary road will be constructed and then decommissioned in the same dry season after harvest.
- Approximately 10 miles of existing rocked road will be renovated.
- Approximately 1 mile of existing jeep road will be renovated.

JITW = Jobs In The Woods project funding.

- Total haul route down Slater Creek road is approximately 6 miles in length.
- Total haul route down Twelvemile Creek road is approximately 9 miles in length.

Development of a quarry is proposed in the NE¼ NE¼ of Section 27 in T. 30 S., R. 9 W. This would involve excavation into an existing road cutbank. The proposed excavation and development would involve approximately one acre. This quarry would provide a source of rock for road surfacing, other renovation work, and future resurfacing of roads.

## III. Critical Elements of the Human Environment That Would Not Be Affected

The following Critical Elements of the Human Environment would not be affected by either the No Action or Proposed Action. There are no Areas of Critical Environmental Concern, prime farmlands, or floodplains in the project area. The area is not designated as wilderness, or as part of a wild and scenic river corridor. No Native American religious concerns were identified in notification of potentially affected tribes. No noxious weed problems were noted in the project area, so non-native, invasive species are expected to be unaffected by either alternative.

# Chapter 3
# AFFECTED ENVIRONMENT

This chapter summarizes the specific resources that are present or have the potential to be present within the area, and that could be affected by the proposed action.

## I. Special Status Species

The Roseburg District Proposed Resource Management Plan/Environmental Impact Statement (PRMP/EIS, October 1994) defines Special Status Species as follows: "Species which are limited in abundance and distribution and have identifiable threats to their existence are managed as special status species." (PRMP/EIS, p. 3-33) Six categories of special status species are recognized. These are:

1. Federally threatened or endangered
2. Federally proposed
3. Federal candidate
4. State threatened and endangered
5. Bureau sensitive
6. Assessment species

### ***Terrestrial Wildlife***

The bald eagle, northern goshawk and Columbian white-tailed deer are known to exist on the Roseburg District but are not expected to occur in the project area. The proposed units are outside of known territories, habitat zones or suitable habitat for these species.

*Federally Threatened Marbled Murrelet*

Potential suitable habitat for the marbled murrelet is present within ¼ mile of the proposed units, but not within the proposed unit boundaries. The proposed quarry site does not contain suitable habitat, but is also located within ¼ mile of potentially suitable habitat.

*Federally Threatened Northern Spotted Owl*

All proposed units are comprised of stands which represent potential suitable foraging and dispersal habitat for the NSO. There are no known owl sites in the vicinity of the project area, and the proposed action is located outside of designated critical habitat.

***Fish Species***

*Federally Threatened Oregon Coast coho salmon*

The Oregon Coast coho salmon Evolutionary Significant Unit was listed by the National Marine Fisheries Service as a threatened species under the Endangered Species Act (Federal Register, Vol. 63, No. 53/Thursday, March 19, 1998/Rules and Regulations). Coho salmon are not present in the project area. Anadromy is blocked by Bradford Falls, a natural barrier, located approximately 5-6 miles downstream of the project areas.

*Federally Proposed Oregon Coast steelhead trout*

The Oregon Coast steelhead was "proposed" for listing by the NMFS as a threatened species under the ESA. Steelhead are now considered a candidate species by the NMFS (Federal Register, 1998), but are not present in the project area. As is the case for coho salmon, anadromy is blocked by Bradford Falls, approximately 5-6 miles downstream of the project area.

***Plant Species***

Potential habitat for two special status vascular plants is present within the project area, associated with the proposed thinning units and the proposed quarry site. These species are *Aster vialis* (wayside aster) and *Cypripedium fasciculatum* (clustered lady's slipper).

## II. SEIS Special Attention Species

SEIS Special Attention Species identified in the ROD/RMP include Survey and Manage and Protection Buffer species. Special Attention Species are species for which there was a concern for persistence under the management direction contained in the Northwest Forest Plan. These species are generally described as rare or uncommon, and are generally not subject to protection under the Endangered Species Act unless individually proposed and listed. Special Attention Species include mammals, birds, amphibians, reptiles and plants.

***Terrestrial Wildlife***

Survey and Manage, and Protection Buffer wildlife species known to exist on the Roseburg District include one species of bird (great gray owl), one arboreal mammal (red tree vole), one amphibian (Del Norte salamander) and four species of mollusks.

*Great Gray Owl (Strix nebulosa)*

The great gray owl inhabits forested stands adjacent to large meadows where the species forages. Great gray owl presence is not expected based on a lack of suitable habitat.

*Red Tree Vole (Arborimus longicaudas)*

The red tree vole is an arboreal mammal that depends on conifer canopies for nesting sites, forage, cover, moisture and travel routes. The proposed thinning units contain potential habitat for the red tree vole. The site of the proposed quarry is dominated by deciduous species with conifers less than ten years of age, and is considered unsuitable as habitat.

*Del Norte Salamander (Plethodon elongatus)*

The proposed units are within 20-25 miles of documented sites occupied by the Del Norte salamander. Habitat requirements are typically characterized by rocky outcrops, talus slopes protected by overstory canopy, and rocky substrates in mature to old-growth forest. There is no known suitable habitat within the proposed unit boundaries, but potentially suitable habitat is present between proposed Units A and B. No suitable habitat is present in the area proposed for quarry development.

*Mollusks*

Four species of mollusks (*Helminthoglypta hertleini*, *Megomphix hemphilli*, *Prophysaon coeruleum*, and *Prophysaon dubium*) have the potential to exist in the project areas. These four species inhabit forested stands ranging from early-seral to late-seral in development, and frequently characterized by the presence of closed canopy; large, decayed wood; and hardwood leaf litter. The site of the proposed quarry development is an early-seral stand and is not considered to provide potential habitat for these species.

***Plants***

There are a total of 18 species of Protection Buffer and Survey & Manage plants identified as having the potential to exist in the project area, based on the availability of suitable habitat. These species comprise both vascular and non-vascular plants and include fungi, lichens and bryophytes. (See Appendix D)

## III. Vegetation/Timber Resources

The stands proposed for thinning are characterized by 50-year old Douglas-fir with a scattering of western hemlock. Some large, residual Douglas-fir and grand fir are present in proposed Unit A. Port-Orford-cedar is present in proposed Unit C. Canopies are generally closed.

Port-Orford cedar and Pacific yew, to a lesser degree, are affected by the pathogen *Phytophthora lateralis,* which causes root disease and tree mortality. Roadside surveys for dead and dying POC that may indicate the presence of *P. lateralis* have been done for the project area. The areas

surrounding and within the proposed units have also been found to be free of the disease. However, the presence of disease has been observed along the sides of Road Nos. 30-9-23.3 and 30-9-24.0 which constitute a portion of the proposed haul route.

## IV. Soils

Soils in the project area are of a sedimentary origin. The soils tend to be loamy textured, moderately deep to deep on side slopes, and shallow on ridgetops. Parent material is composed of bedded sandstone, siltstone and conglomerate formations. Soils of these origins, particularly mudstone and sandstone are susceptible to surface erosion. There is a natural surface jeep road bordering proposed Units A and B that is actively eroding and rutting. No poorly drained or hydric soils are known to occur in the project area. A small area of fragile soils exists between proposed Units A and B, and a potentially unstable slope exists in the southernmost portion of Unit A.

## V. Water Resources

The project area is located in the Lower Twelve Mile, Upper Twelve Mile and Bear Creek drainages of the Twelve Mile subwatershed, within the Upper Middle Fork Coquille Analytical Watershed. The area has a Mediterranean climate characterized by cool, wet winters and hot, dry summers. Precipitation occurs in the form of rain and snow. Annual precipitation in the proposed project area is estimated at about 50 inches, based on readings from weather stations in adjoining watersheds. Approximately 85 percent of precipitation occurs between October and April.

The Oregon Department of Environmental Quality 1998 303(d) List of Water Quality Limited Water Bodies identified moderate problems for sediment in their Non-Point Sources assessment.

Roads building is identified as a management activity that has the potential to increase peak flows above normal rates, increase sediment loading to streams, and extend drainage networks. Road densities in the drainages in which the proposed project is located average 5.94 miles per square mile with an associated average of 2.46 stream crossings per stream mile. The National Marine Fisheries Service considers road densities in excess of 2 miles per square mile as potentially detrimental to aquatic habitat and organisms. Many roads in the project area lack adequate culverts, are experiencing downcutting of ditchlines, and lack regular road maintenance. All of these factors contribute to an increased input of sediment into stream channels (Upper Middle Fork Coquille Watershed Analysis, second iteration, 1998, p.53).

Removal of vegetation affects stream function by reducing recruitment of large wood into streams. Large wood is important for capturing and retaining bedload, and for protecting streambanks. Surveys by the Oregon Department of Fish and Wildlife noted deficiencies in current levels of large wood, and a lack of future recruitment potential.

## VI. Cultural Resources

No cultural resources are known to exist in the proposed project area. State Historic Preservation Office (SHPO) concurrence is pending.

## VII. Recreation

There are no Visual Resource Management or recreation concerns associated with this proposed project.

# Chapter 4
# Environmental Consequences and Recommended Mitigation

This chapter discusses how the specific resources would or would not be affected in the short term and long term, by implementation of the alternatives contained in this analysis. The discussion also identifies the potential impacts or consequences that would expected, and recommended mitigation where appropriate.

## I. Alternative 1 - No Action

Timber harvest would occur in another location within Matrix lands to meet the probable sale quantity objectives of the RMP. Potential impacts associated with harvest would occur elsewhere. Rock quarry expansion would not occur. Roads identified as contributing to water quality problems would not be renovated. There would be no decommissioning of roads or reduction in road density within the watershed.

### A. Special Status Species

#### *Terrestrial Wildlife*

*Federally Threatened Marbled Murrelet*

There would be no direct impact to murrelet. Present stand conditions do not provide suitable nesting habitat. These conditions would persist over the long term, until trees attain size and structure that would provide suitable nesting sites and cover.

*Federally Threatened Northern Spotted Owl*

In the short term, suppression mortality caused by crowding among trees is not likely to provide large snags or provide large woody debris (LWD) because mortality would only occur in the smaller trees. This would result in a prolonged deficit of snags and other structure used by owls for nesting. Small mammal populations would be restricted to those species which have the ability to subsist on conifer needles or cones seasonally, resulting in a restricted prey base. Foraging and roosting quality of these stands would gradually decline until openings begin to form through normal gap-phase mortality, allowing for the development of multi-layered canopies and structure in the long term.

***Fish Species***

There would be no direct impacts to fisheries resources under this alternative. Indirect and cumulative impacts associated with sedimentation from the existing roads would continue. Long-term development of large wood for recruitment into streams would be delayed. Aquatic environmental conditions which are currently rated poor for the Middle Fork Coquille Watershed would remain relatively constant in the short term since aquatic environments and streams do not quickly recover from previous disturbance to attain a "properly functioning condition" (USDC 1996).

There would be a long-term affect on the recruitment of large wood into streams. Suppression mortality would only provide smaller diameter material. Growth of larger trees would be slowed and would delay the recruitment of the desired sizes of large wood.

***Plant Species***

There would be no anticipated impacts to potential populations of special status plant species other than by processes of succession and natural selection.

**B. SEIS Special Attention Species**

***Terrestrial Wildlife***

*Red Tree Vole (Arborimus longicaudas)*

There would be no affect on the "no action" alternative. No removal of trees would occur. Over the long term, maturation of the stands would be expected to provide more suitable habitat.

*Del Norte Salamander (Plethodon elongatus)*

If present, salamanders would be unaffected by adoption of the "no action" alternative. There would be no disturbance or modification of suitable habitat in the short term. In the long term, additional suitable habitat may evolve.

*Mollusks*

Mollusk populations which may inhabit the proposed units would not be affected. Current distribution and abundance would remain as they are.

***Plant Species***

There would be no anticipated impacts to potential populations of special attention plant species other than by processes of succession and natural selection.

## C. Vegetation/Timber Resources

Thinning would not occur at this time and present stand conditions would remain as they are. Stand densities would remain high resulting in gradually increasing understory mortality. This would result in the persistence of single-layered canopies formed by the interlocking crowns of the largest trees. Single storied conifer stands such as these would not develop into multi-storied stands without disturbance. Hardwood species would die out as they are over-topped. Seedlings of shade-tolerant conifers such as grand fir, western redcedar, western hemlock, and Port-Orford-cedar are present in some stands but growth and development would be limited. Regeneration of Douglas-fir would be inhibited without the creation of openings in the stand. As the stands age, crowns shorten and trees become more susceptible to wind damage, insects and disease. When live crown ratio declines below 30%, the ability of the trees to respond to increased light and moisture availability decreases.

Based on modeling using ORGANON growth simulation software, these unthinned stands would contain more trees per acre but of a smaller average diameter than thinned stands. Relative densities would remain very high, live crowns would continue to recede and, suppression mortality of the smaller trees would continue.

There would be little impact on Port-Orford-cedar and the spread of *Phytophthora lateralis* root rot.

## D. Soils

Under a "no action" alternative, there would be no soil disturbance associated with cable yarding or the construction of temporary spur roads. Surface erosion associated with natural surface roads would continue. Quarry development would not occur, necessitating procurement of rock from commercial sources for future road surfacing needs.

## E. Water Resources

No impacts to hydrological functions would occur as a consequence of timber harvest and road construction. Indirect and cumulative impacts associated with sedimentation from the existing road system would continue.

### F. Cultural Resources

No cultural resources are known to exist in the proposed project area, nor would any potential resources be affected by adoption of the "no action" alternative.

### G. Recreation

No recreational of Visual Resource Management values were identified in the project area. As a consequence, there would be no affect on these resources by adoption of the "no action" alternative.

## II. Alternative 2 - Proposed Action

### A. Special Status Species

***Terrestrial Wildlife***

*Federally Threatened Marbled Murrelet*

Removal of trees from the proposed units and development of the proposed quarry is considered to be a "no effect" on the murrelet and its' habitat. The stands proposed for thinning lack the tree size and structure utilized by murrelets. The proposed quarry site is in a previously harvested unit that is approximately 10 years old and dominated by shrubs and hardwoods. However, the likelihood of disturbance from noise created by nearby harvest, operations, road renovation and/or construction activities would constitute a "may affect, not likely to adversely affect" action and require an "incidental take" authorization. Restrictions on the hours of timber falling and other equipment operation would be required under the Terms and Conditions of the U.S. Fish and Wildlife Service Biological Opinion. These restrictions would require that operations not begin until two hours after sunrise and cease two hours before sunset, during the period from April 1 to September 15 if the activities are located within ¼ mile of unsurveyed potentially suitable habitat.

*Federally Threatened Northern Spotted Owl*

Thinning the units in accordance with the marking prescription contained in Appendix B would not affect short-term functionality of the stands as dispersal habitat. Development of the quarry site would not remove any suitable habitat.

Thinning would benefit the NSO and other late-seral dependent species in the long term by promoting growth of reserved trees, encouraging establishment of a secondary canopy layer, and accelerating the development of foraging habitat.

The proposed project is located outside of Designated Critical Habitat and any known NSO territories. Since there would be no direct impacts to any known site, the action is considered a "no effect" to the species and its habitat.

***Fish Species***

Neither the Oregon Coast coho salmon or Oregon Coast steelhead trout are present in the project area. These species are located in the Middle Fork Coquille watershed, downstream of the project area, but anadromy is blocked by a natural barrier an estimated 5-6 miles downstream of the project area. No activities would occur in Riparian Reserves, so no direct impacts on either species are expected. There are potential indirect and cumulative impacts associated with current watershed conditions. Potential project level degrades in sediment and substrate have been identified. These potential affects would be expected to be short term, lasting from one to three years, and would be primarily associated with construction and tilling of temporary roads, and decommissioning of existing roads. As a consequence of the establishment of Riparian Reserves, implementation of appropriate project design features, application of Best Management Practices, and adherence to Standards and Guidelines contained in the Roseburg District ROD/RMP, it is anticipated that the action would maintain existing aquatic conditions in the short term, and that the proposed decommissioning and road-surfacing would improve watershed conditions in the long term, consistent with the Aquatic Conservation Strategy.

The consequences of the proposed thinning constitutes a determination of "may affect"on the Oregon Coast coho salmon and requires consultation with the National Marine Fisheries Service. In a biological opinion dated October 7, 1998, the National Marine Fisheries Service determined that the proposed thinning is "not likely to adversely affect" subject species.

The quarry site is located outside of Riparian Reserves and there is no discernible likelihood that any sediment could be transported into any active streams. Quarry development would be seasonally restricted to the dry season, between May 15 and October 15. As a consequence, quarry development would have "no affect" on fish.

***Plant Species***

If surveys of the proposed units and quarry identify the presence of any special status plants, the sites will be managed in accordance with guidelines designed to retain habitat features and characteristics, and maintain viability of the populations. As a consequence, there would be no affect anticipated on any special status plants.

## B. SEIS Special Attention Species

### ***Terrestrial Wildlife***

*Red Tree Vole (Arborimus longicaudas)*

There would be no impact to red tree voles, associated with implementation of the proposed action. Management guidelines for the species would be implemented where current or past vole occupancy is verified in the thinning units.

The quarry site does not contain suitable habitat. The vegetation is very young and dominated by hardwoods. Average conifer diameter is less than ten inches, and the area is lacking any large, residual trees. Quarry development would have no impact on red tree voles.

*Del Norte Salamander (Plethodon elongatus)*

Surveys are ongoing. The proposed thinning would have no affect on salamanders. If occupied sites are identified, they will be managed in accordance with current management direction. The quarry site does not represent suitable habitat and does not require surveys.

*Mollusks*

Several *Prophysaon coeruleum* have been located in Unit A and in Riparian Reserves adjacent to the unit. One *Prophysaon dubium* was also identified in Unit A. No mollusks were located in surveys of Unit B, and a single *Prophysaon coeruleum* was located in Unit C. Suitable habitat is absent on the proposed quarry site.

The possibility of increases in microsite temperature and decreases in humidity would represent the potential threats to the viability of the population. Impacts to key habitat features are not expected because of the implementation of management guidelines. Mitigation would include the maintenance of a minimum of 50% canopy closure, clumping of reserve trees around known sites, avoidance of ground disturbance in areas where down wood is concentrated, and retention of hardwoods. Under these circumstances there should be no adverse consequences to the mollusks known to inhabit these stands.

### ***Plant Species***

There would be no direct or indirect impacts to vascular and nonvascular plants listed as Protection Buffer or Survey and Manage species as a consequence of the proposed action. Prior to implementation, protocol surveys of potential suitable habitat would be conducted

for the species. If species are located during surveys, sites would be managed in accordance with current management guidelines, which would protect habitat and micro-climate conditions essential to the persistence of the species.

## C. Vegetation/Timber Resources

Thinning from below would reduce stand density to approximately 80 trees per acre in Units A & C form present levels of approximately 250 trees per acre, and 120 trees per acre from approximately 380 trees per acre in Unit B. The marking prescription would retain the dominant and co-dominant trees in the stands. Remnant structure in the form of large, old trees and snags would be retained. Retention of hardwoods would maintain species diversity in the stands. Specific marking prescriptions are contained in Appendix B.

The additional growing space created by the thinning would release the retained trees and accelerate growth. The openings would also allow for regeneration of more shade tolerant species in the understory, allowing for development of a multi-layered canopy. The canopy of the stands would be expected to close in over a 20 year period, following thinning. At this time suppression mortality would begin to affect trees in the understory.

Thinning would not occur in approximately 11 acres of Riparian Reserves. Growth rates in these densely stocked areas will continue to slow and stagnate in the absence of disturbance. These single story stands will not develop the multi-storied canopies and large trees typical of late-successional forests. Hardwoods will be overtopped, and will die out in the Riparian Reserves. Recruitment of large wood into the aquatic systems will be retarded.

All management activities would conform to the Port-Orford Cedar Management Guidelines. Spread of the disease is attributed to the transportation of infected soil by logging equipment and vehicles, and by overland flow of water on slopes, in streams, or in ditches. All thinning and hauling operations would be restricted to the dry season. Merchantable Port-Orford-cedar within 75 feet of the road in Unit C, on the downhill side, would be removed to prevent possible spread of the disease if inadvertently introduced into the area. Merchantable Port-Orford-cedar to be retained in the units would be spaced a minimum of 50 feet from other Port-Orford-cedar and a minimum of 25 feet from trees of other species. All construction and logging equipment would be pressure-washed or steam-cleaned prior to move-in. Non-merchantable Port-Orford-cedar adjacent to the timber sale haul route would be removed at a later time as an additional measure for controlling potential spread of the disease. A more detailed survey of infected and healthy POC locations would be conducted during sale preparation.

Quarry development is anticipated to remove one to two acres from the timber base in the foreseeable future. Development could involve less acreage, if the quantity of suitable rock is limited. Future expansion of the quarry would be contingent on rock quality and additional analysis. Reclamation of the quarry would be contingent on its suitability as a continuing source of aggregate.

## D. Soils

Timber harvest and the construction of temporary roads would result in some localized surface disturbance of soils. Erosion of the natural surface road bordering proposed Units A and B would be corrected by application of Best Management Practices contained in the Appendix D of the ROD/RMP (pp. 131-138). Any of the following practices would suffice to correct the problem:

1. Rock and drain dip the entire jeep road. (BMP D-6, G-11)

2. Rock the most erosive parts of the jeep road, including the first 1,100 feet from the 30-9-23.3 road junction and the last 150 feet near the junction with the 30-9-17.0 road. Install drain dips on the remainder of the road to break up water flow along the road tracks, and channel it off of the road surface. (BMP D-6, G-11)

3. Install drain dips on the entire jeep road and close the road to traffic during the wet months (Nov. - June). (BMP I-3)

The southernmost portion of Unit A contains a potentially unstable area. Recommended mitigation would consist of extending the Riparian Reserve to include the area. This would maintain water interception by the canopy and retain vegetative root strength, minimizing slide potential into the Riparian Reserve located below.

## E. Water Resources

There would be no direct impacts to hydrology arising from the proposed action.

All new road construction would be of a temporary nature and would utilize existing jeep roads where possible. Temporary roads would be used and fully decommissioned during the same dry season in which they are constructed. There would be no road construction or harvest activities in Riparian Reserves. Overall road density would remain relatively constant, so there would be no extension of the drainage network and increased potential for sediment input into the aquatic system beyond the localized and short term impacts from the temporary roads.

The establishment of Riparian Reserves will protect the morphology of the stream channels adjacent to harvest units. No yarding would be permitted through Riparian Reserves. There would be no removal of vegetation from Riparian Reserves, so there would be no affect on shading and stream temperatures. These intact Riparian Reserves would also serve to filter out any potential sediment from upland management and harvest activities, before it could enter any active streams.

### F. Cultural Resources

No cultural resources are known to exist in the proposed project area. The Oregon State Historic Preservation Office has issued a concurring opinion of "No Effect", for the proposed action..

### G. Recreation

No recreational of Visual Resource Management values were identified in the project area that would be affected by the commercial thinning or quarry development.

## III. **Monitoring**

Monitoring would be done in accordance with the ROD/RMP, Appendix I (p. 84, 190-191, & 195-198).

# Chapter 5
# LIST OF AGENCIES/PERSONS CONTACTED AND PREPARERS

This project was included in the Roseburg BLM Project Planning Update (Spring 1998). The notice of decision will be published in the News Review if a decision is made to implement the project.

I. **Agencies & Persons Contacted:**

Adjacent Landowners
Coquille Indian Tribe
Cow Creek Band of Umpqua Indians
National Marine Fisheries Service
State Historic Preservation Office
US Fish and Wildlife Service

II. **The following agencies, organizations, and individuals would be notified of the completion of the EA/FONSI:**

Division of State Lands
Douglas County Board of Commissioners
Francis Eatherington for Umpqua Watersheds, Inc.
Oregon Department of Environmental Quality
Oregon Department of Fish and Wildlife
Oregon Department of Forestry
Oregon Land Conservation & Development
Oregon Natural Resources Council
US Environmental Protection Agency
Umpqua Regional Council of Governments
Ronald S. Yockim

III. **List of Preparers:**

| | | |
|---|---|---|
| Jeannette Griese | Silviculturist | ID Team Leader |
| Dave Fehringer | Forester | EA Writer |
| Nancy Duncan | Wildlife Biologist | Wildlife/T&E Species |
| Gary Basham | Botanist | Special Status Plants |
| Don Scheleen | Archaeologist | Cultural Resources |
| Mark Beardsley | Forestry Tech. | Timber Resources |
| Ed Horn | Soil Scientist | Soils |
| Aimee Burns | Fisheries Biologist | Fisheries |
| Lowell Duell | Hydrologist | Hydrology |
| Sandy Bigler | Natural Resources Technician | Engineering |
| Patrick Vu | Civil Engineer Trainee | Engineering |
| John Royce | Sup. Multi-Resource Specialist | Management Representative |
| Paul Ausbeck | NEPA Coordinator | |

LITERATURE CITED --

Federal Register, Vol. 62, No. 87, Tuesday, May 6, 1997, Rules and Regulations.

Federal Register, Vol. 63, No. 53, Thursday, March 19, 1998, Rules and Regulations.

USDI Bureau of Land Management. October 1994. Roseburg District Proposed Resource Management Plan/Environmental Impact Statement, Volume 1.

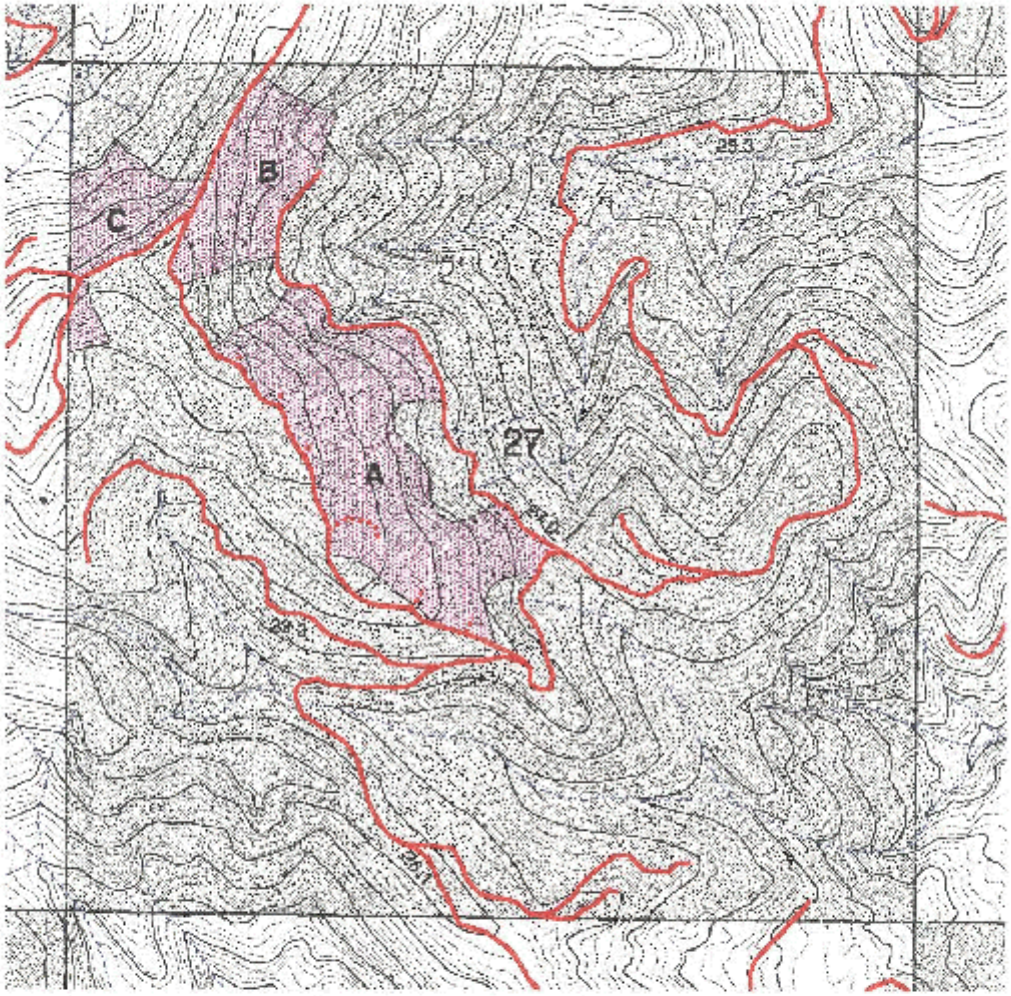
USDI Bureau of Land Management, Roseburg District. June 1995. Record of Decision and Resource Management Plan.

UDSI Bureau of Land Management, Roseburg District. May, 1999. Upper Middle Fork Coquille Watershed Analysis

**APPENDIX A**

# KOLA'S RIDGE THINNING

## PROPOSED UNIT CONFIGURATIONS




1000 0 1000 Feet

1"=1000'

T30S, R9W

N
W E
S

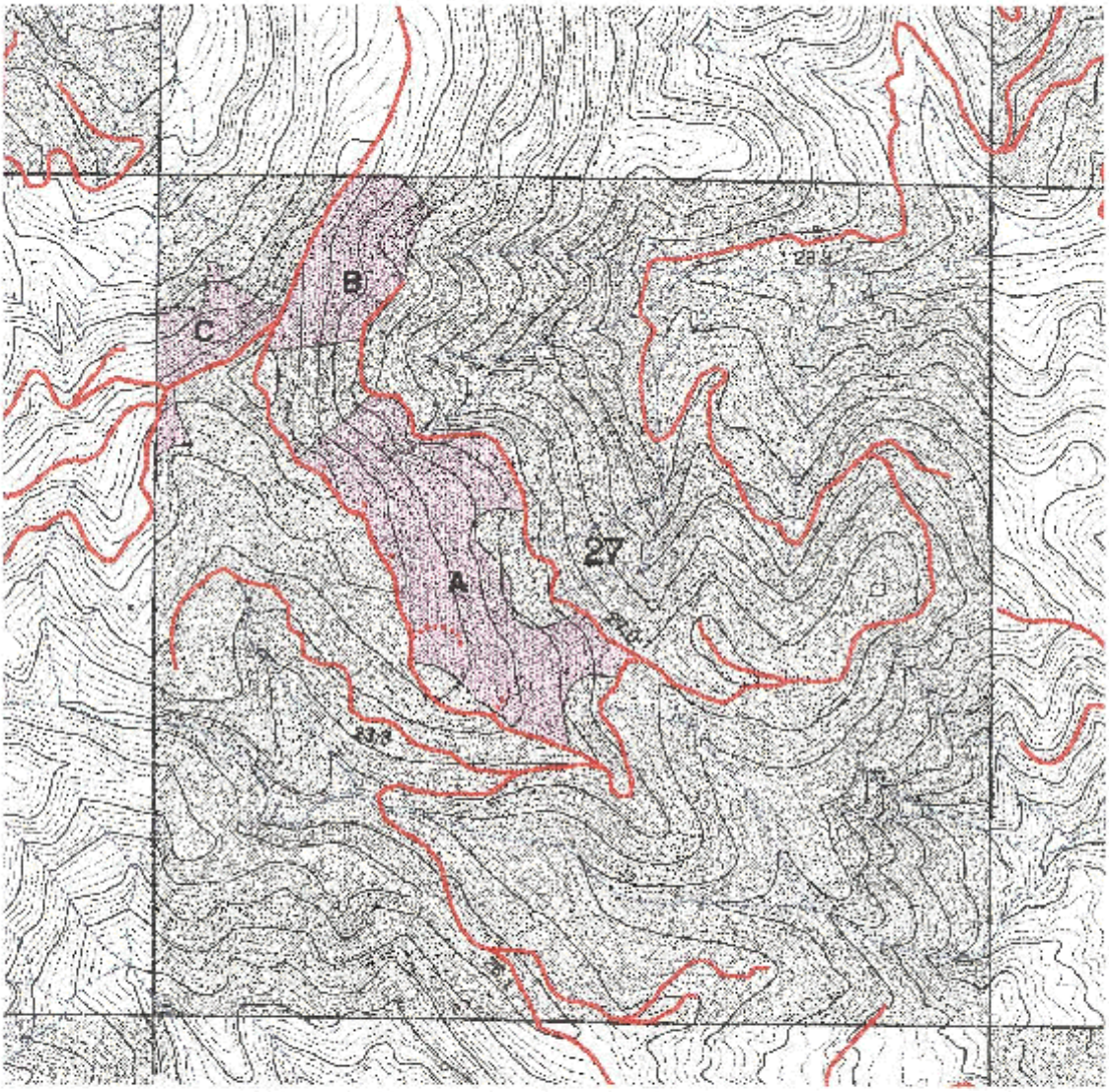
Temporary Spur
Existing Road
100' Contour
20' Contour
Stream
Harvest Area
O&C Land
Private Land

7-16-98

A-1

# KOLA'S RIDGE THINNING

## Final Unit Configurations




1000 0 1000 Feet

1"=1000'

T30S, R9W

N
W E
S

- Temporary Spur
- Existing Road
- 100' Contour
- 20' Contour
- Stream
- Harvest Area
- O&C Land
- Private Land

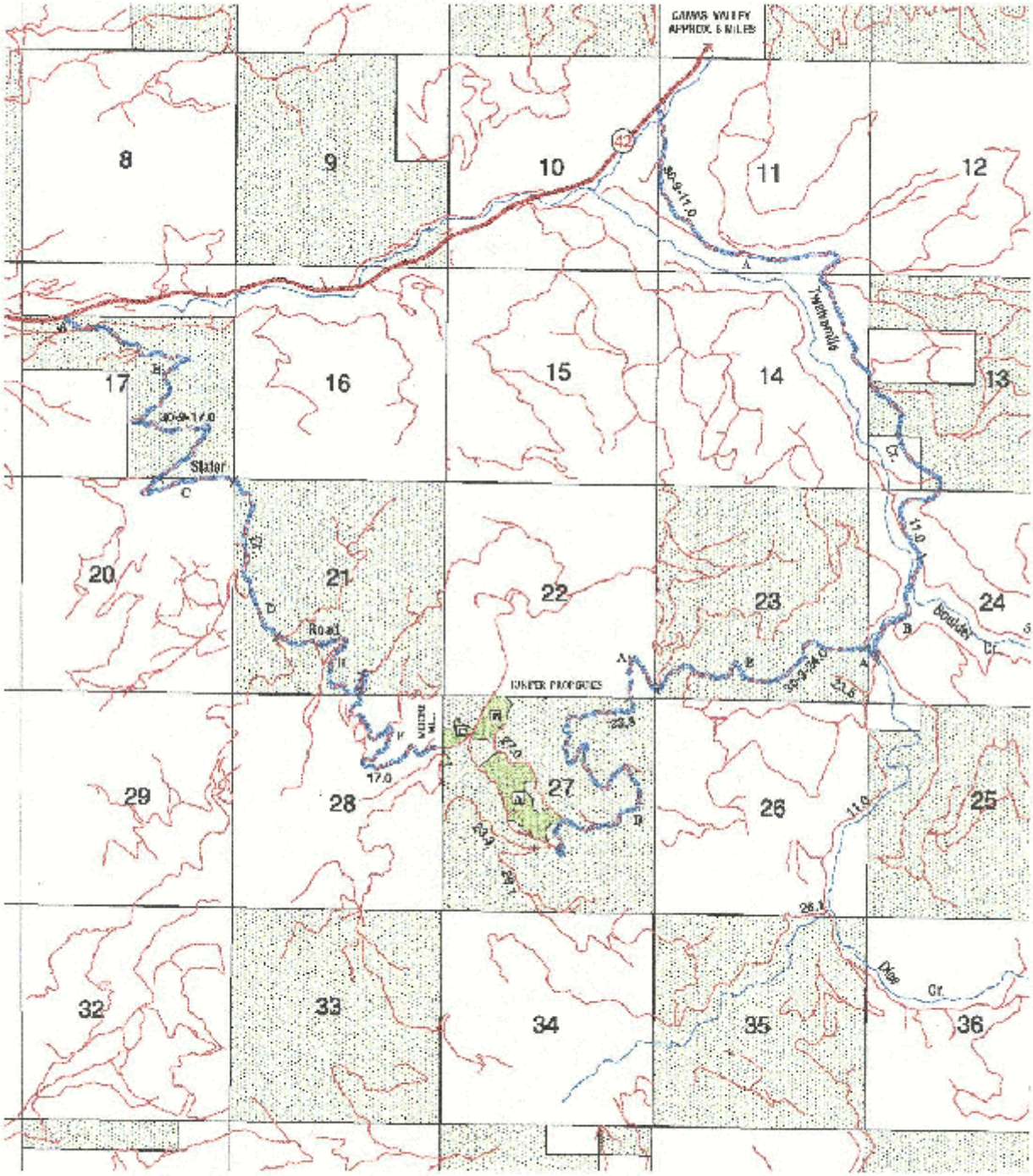
8-27-98

A-2

ACCESS AND MAINTENANCE MAP

EXHIBIT "D"

# KOLA'S RIDGE THINNING




A-3

# APPENDIX B
# MARKING GUIDELINES &
# UNIT-BY-UNIT DESCRIPTION

The following guidelines will be applied subject to individual on-the-ground circumstances.

**Marking Guidelines That Apply For All Units**

1. Reserve hardwoods by painting if > 12" DBH, if needed to maintain spacing, or if present in large clumps.
2. Favor Port-Orford cedar (POC) trees except when located within 75' below roads. Use 50' as a spacing guideline between adjacent POC. Widen spacing around individual POC to approximately 25'.
3. Reserve the current mix of species - mark minor tree species when their size and spacing allows.
4. Reserve all residual old-growth trees.
5. Clump reserve trees where mollusk sites are identified.
6. Reserve all decay class 3, 4, and 5 down woody debris from yarding, in the contract. Protect large down wood where possible by marking leave trees adjacent to concentrations.
7. Reserve all large snags with the exception of those snags that would fall within a logging corridor or those that present a safety risk to personnel. Where needed, designate rub trees to reduce potential damage to snags. Size of leave area depends on the height of the snag.

**General Operating Restrictions**

1. No operations are permitted two hours after sunrise and two hours before sunset (April 1 - Sept. 15) due to the presence of suitable marbled murrelet habitat within 1/4 mile of the project area.
2. Utilize cable-based harvest system in the dry season (ending Oct.15). Require one-end suspension with skyline roads not to exceed 20' in width, utilizing a mechanical slack-pulling carriage capable of a minimum of 100' lateral yarding.
3. No felling bucking, or yarding between April 15 and July 15 due to bark slippage.

**Unit Specific Guidelines**

**Unit A - 40 acres**

1. Conifer leave trees will be those in the co-dominant or dominant crown position spaced approximately 23 feet apart.
2. Riparian Reserves are 180' no disturbance areas.
3. Include slumpy area within the Riparian Reserve near the south portion of Unit A.
4. Spur roads necessary for logging would be temporary. Build, use and decommission in the same dry season, following the completion of logging.

**Unit B - 16 acres**

1. Reserved conifers will be those in the co-dominant or dominant crown position spaced approximately 19 feet apart.
2. No Riparian Reserves are present in this unit.

**Unit C** - 11 acres

1. Reserved conifers will be those in the co-dominant or dominant crown position spaced approximately 23 feet apart.
2. Riparian Reserves are 180' no disturbance areas.
3. Port-Orford cedar is present in the unit. It is apparently healthy, however three pole size trees exist just below the 17.0 rd. near the section line and should be cut to reduce potential hosts for inoculum. Reserve other POC trees within this unit.
4. Prohibit landing location or any road renovation beyond the running surface immediately adjacent to the rock carvings along jeep road.

# APPENDIX C
# AQUATIC CONSERVATION STRATEGY CONSISTENCY

## Summary of the Proposed Action

The proposal is to commercially thin three units with a total of 67 acres. An estimated 50% crown closure should exist following the thinning. The project area is located within the TSZ. The project is not located within a key watershed. The first iteration of watershed analysis was completed by the Coos Bay District-BLM in July 1994. There are no harvest activities nor road construction, renovation, or decommissioning activities within Riparian Reserves planned with this project. Riparian Reserves have been established at a width of 180 feet.

Two of the three units (units A and B) are located in the Lower Twelve Mile drainage approximately 7 miles upstream from Bradford Falls, a natural waterfall on the Middle Fork Coquille River that blocks anadromous fish migration. A small portion of unit C is located in the Upper Twelve Mile drainage. The remaining portion of Unit C is located on the Bear Creek drainage side of the ridge line that separates the Upper and Lower Twelve Mile drainages from the Bear Creek drainage. This portion of unit C is approximately 3 miles upstream of the anadromous fish-bearing reaches of the Middle Fork Coquille River, downstream of Bradford Falls. All of the units are located >1 mile upstream from the closest resident fish-bearing stream reach.

The entire project will be seasonally restricted to an operational period of July 15 to October 15 because of bark slip, construction of temporary roads, use of natural surface roads, and the location of the project in the range of the Port-Orford cedar.

There is no permanent road construction or decommissioning proposed with the project. Temporary roads constructed will be used and decommissioned in the same operation season in which they are built. Approximately one mile of currently existing jeep road is proposed for renovation. The jeep road is on a ridge top with significant bedrock. It does not intercept any streams or draws, but is subject to surface erosion and channeling. As a minimum the road will be spot surfaced with four inches of rock as storm proofing and drain dips will be constructed to eliminate existing erosion problems.

## Evaluation of Consistency with the Northwest Forest Plan Standards and Guidelines

This project complies with the Northwest Forest Plan Standards and Guidelines. There is no harvesting planned in Late-Successional Reserves or Riparian Reserves. Riparian Reserves widths of 180 feet have been established for nonfish-bearing streams and 360 feet for fish-bearing streams in the Middle Fork Coquille Watershed. There are no fish-bearing streams in the project area. BMP would be applied to road construction and timber harvesting activities.

This project is located in the GFMA in the Matrix lands. The following S&G's are required by the NFP:

1) Riparian Reserves are specified for five categories of streams or water bodies (ROD, C-30). Riparian Reserve widths were established based on the height of a site potential tree (ROD, C-31).

2) S&G RF-2a (NFP, C-32) states that ACS objectives are to be met by "minimizing road and landing locations in Riparian Reserves." No roads would be built in the Riparian Reserves.
3) Timber Management (TM:1) and Road Management (RF:1-5) objectives have been reviewed and implemented for this project where appropriate. No construction or harvest will occur in the Riparian Reserves and all road renovation will be conducted in a manner consistent with BMP, including minimizing impacts from sediment through surfacing of roads, adding additional cross-drain culverts, installing down spouts and splash pads.

**Evaluation of Consistency with the Components of the Aquatic Conservation Strategy**

The ACS consists of four components: (1) Riparian Reserves, (2) Key Watersheds, (3) Watershed Restoration, and (4) Watershed Analysis. The Kola's Ridge Commercial Thinning Timber Sale is consistent with these criteria.

*Riparian Reserves*

Riparian Reserve widths have been established for the 5th field watershed (Middle Fork Coquille Watershed) in which the sale is located. Riparian Reserve widths of 180 feet on nonfish-bearing streams, and 360 feet on fish-bearing streams have been established. There are no fish-bearing streams included in the project area.

According to the Forest Ecosystem Management Assessment Team (FEMAT, Chapter V) "Riparian Reserves generally parallel the stream network, but also include other areas necessary for maintaining hydrologic, geomorphic and ecological processes that directly affect streams, stream processes and fish habitats". Riparian Reserves serve to:

- maintain streambank integrity (ACS objectives 3, 8 and 9).
- maintain and recruit large woody debris and other vegetative debris to provide aquatic habitat and filter suspended sediments. The trapped sediments would absorb and store water. This water would be available during summer months as a supplement to low summer flows. (ACS objectives 3, 5, 6 and 8).
- the large woody debris would help to regulate stream flows by dissipating energy, thus moderating peak stream flows and protecting the morphology of stream channels (ACS objectives 3, 8 and 9).

- provide a nutrient source and water for aquatic and terrestrial species (ACS objectives 2, 4, 8 and 9).
- maintain shade and riparian micro-climate (ACS objectives 2, 4, 8 and 9).
- provide for sediment filtration from upslope activities (ACS objectives 5, 6, 8 and 9).
- enhance habitat for species dependent on the transition zone between upslope and riparian areas (ACS objectives 1, 2, 4, 8 and 9).
- improve travel and dispersal corridors for terrestrial animals and plants and provide greater connectivity within the watershed (ACS objectives 1, 2, 3, 6 and 8).
- maintain surface and ground water systems as exchange areas for water, sediment and nutrients (ACS objectives 2, 4, 6 and 8).
- provide for the creation of and maintenance of pool habitat (i.e. pool frequency and pool quality) (ACS objectives 3, 6, 8 and 9).
- provide lateral, longitudinal and drainage network connections which include floodplains, wetlands, upslope areas, headwater tributaries and intact refugia (ACS objectives 1, 2, 3, 6, 7, 8 and 9).
- maintain connections between floodplains and off-channel habitat areas (ACS objectives 1, 2, 3, 6, 7, 8 and 9).

*Key Watersheds*

This project is not located in a Key Watershed, so Standards and Guidelines relating to Key Watersheds do not apply.

*Restoration*

Planned Restoration under the Jobs In The Woods

**Deep Creek -- T. 29 S., R. 9 W., Sections 11&13**

Renovate 7 ½ miles of existing road by stabilizing slides and slumps, installing culverts, spot surfacing previously surfaced roads, and hydro-mulching. This includes rebuilding and surfacing 1/3 mile of a rutted natural surfaced road (29-9-13.1).

Decommission 0.43 miles of dirt roads (29-9-13.0 and unnumbered spurs)

**Bee Tree Ridge -- T. 30 S., R. 9 W., Sections 22, 23,27,34,35**

Renovate 13 miles of existing road by installing new culverts and replacing existing culverts which have rusted, stabilizing slopes with rip/rap, hydro-mulching 9 acres, and surfacing 3 ½ miles of natural surfaced rutted road.

*Watershed Analysis*

The first iteration of watershed analysis for the Middle Fork Coquille watershed was completed by the Coos Bay District-BLM in July 1994. The South River Resource Area of the Roseburg District-BLM has plans to complete a second iteration of this watershed analysis. The second iteration would address more specifically those lands in the Middle Fork Coquille Watershed administered by the Roseburg District-BLM.

**Evaluation of Consistency with NEPA Analysis**

The objectives of the proposal found in the Kola's Ridge Commercial Thinning EA (p. 3) include; controlling stand density and maintaining stand vigor in that portion of the Matrix land use allocation with suitable forest lands; providing a sustainable supply of timber and other forest products; managing developing stands to promote survival, growth and health while enhancing timber quality and production; and managing stands to reduce the risk of loss from fire, insects, and diseases. Other project features would be designed to; maintain water quality; long-term site productivity; ecological structural components such as down logs, snags, and large trees; maintain ACS objectives; and contribute to the probable annual sale quantity of the Roseburg District. Concerns regarding impacts to wildlife, timber, soils, and water/ hydrology were identified. Project design features and BMP were applied to reduce or eliminate potential impacts. The project was found to maintain current fish and aquatic habitat.

**Evaluation of Consistency with NMFS March 18, 1997 LRMP/RMP BO**

The analysis contains recommendations for restoration activities (see *Watershed Restoration* section above) consistent with Conservation Recommendations 5 and 6 on p. 48. A Transportation Management Plan is being developed consistent with Conservation Recommendation 11, p. 49.

The Interdisciplinary Team selected project design features and appropriate BMP from the Roseburg District RMP/ROD in developing the proposed activities to ensure compliance with applicable standards and guidelines and ACS objectives, consistent with Reasonable and Prudent Measure 1, p. 63. The proposed action has been reviewed by the Level I Team, consistent with Reasonable and Prudent Measure 2, p. 63. Based on the ACS Evaluation the proposed action may have negligible adverse effects on a local scale in the short term, but would result in long-term recovery of the ecosystem. This is consistent with Reasonable and Prudent Measure 4, p. 64. All associated road work would be conducted in the dry season with implementation of BMP, consistent with Reasonable and Prudent Measures 5 and 6, p. 64. No other Conservation Measures specifically apply to this proposed action.

Terms and Conditions listed in the BO would be followed with regards to road construction. Project design along with the implementation of the appropriate BMP would meet all ACS objectives, consistent with Term and Condition 1, p. 66. The National Marine Fisheries Service Checklist and Matrix of Pathways and Indicators have been applied and the project has been reviewed by the Level I Team, consistent with Term and Condition 2, p. 67. Temporary road construction would be conducted during the dry season and would employ BMP, which is consistent with Term and Condition 8, pg. 70-72. No other Terms and Conditions specifically apply to this proposed action.

**ACS Consistency Evaluation**

In the following ACS consistency evaluation discussion, a list of factors and indicators from the NMFS checklist (i.e. NMFS Matrix of Pathways and Indicators) has been provided under each ACS objective. There are different factors and indicators that relate to each of the nine ACS objectives and many of these relate to and address more than one ACS objective. By including the factors and indicators in the ACS objective consistency discussion, a common link and logic track is developed between ACS consistency and the effects determination of the proposed project on Federally-listed fish species.

When discussing effects in the individual analyses of ACS objectives, "long-term" is used in the context of ACS, meaning a period of time defined as "...decades, possibly more than a century" (NFP ROD p. B-9), unless otherwise described. The spatial context of analysis is at the 5th field watershed level.

**ACS Objective 1.** Maintain and restore the distribution, diversity, and complexity of watershed and landscape-scale features to ensure protection of the aquatic systems to which species, populations and communities are uniquely adapted.

**Pathways/Indicators Used in BA Effects Matrix:**

| | |
|---|---|
| Habitat Elements/Off-Channel Habitat | Habitat Elements/Refugia |
| Watershed Conditions/Road density and Location | Watershed Conditions/Disturbance History |
| Channel Conditions/Dynamics/Floodplain connectivity | Watershed Conditions/Riparian Reserves |

This project would establish a RR width of 180 feet either side of no fish-bearing streams to maintain the distribution, diversity, and complexity of this landscape feature. The clumping of retention trees outside of the RR will also maintain some of the landscape features in the watershed. Approximately 67 acres would be thinned under the project. This would reduce the current canopy in the project area from approximately 90-100% to approximately 50-60%. This is expected to result in a low-level increase in local disturbance levels. This would be expected to persist over the next 3-5 years when canopy closure is expected to reach or exceed

70%. The disturbance history indicator is check marked as a degrade for the short-term, but not because this proposal will push the indicator towards not properly functioning as per NMFS guidance. It is simply acknowledging that there will be some disturbance on the ground in the project area for the short-term. No new permanent or semi-permanent roads are planned; therefore road densities at the 7th, 6th, and 5th field levels are anticipated to be maintained at current levels.

**ACS Objective 2.** Maintain and restore spatial and temporal connectivity within and between watersheds. Lateral, longitudinal, and drainage network connections include floodplains, wetlands, upslope areas, headwater tributaries, and intact refugia. These network connections must provide chemically and physically unobstructed routes to areas critical for fulfilling life history requirements of aquatic and riparian-dependent species.

**Pathways/Indicators Used in BA Effects Matrix:**

| | |
|---|---|
| Water Quality/Chemical Contamination/Nutrients | Water Quality/Temperature |
| Habitat Elements/Off-Channel Habitat | Habitat Elements/Refugia |
| Flow/Hydrology/Increase in Drainage Network | Watershed Conditions/Riparian Reserves |
| Channel Conditions/Dynamics/Floodplain Connectivity | Habitat Access/Physical Barriers |

No entries would be made into Riparian Reserves, leaving them intact, and maintaining the integrity of the aquatic system. Density management would restore spatial and temporal connectivity of late-seral habitat within and between watersheds at a faster rate than would occur naturally. The RR will continue to move toward late-successional characteristics at their current rate of development. Spatial and temporal connectivity of riparian features are maintained because RR remain intact. No actions are proposed that would be expected to physically or chemically obstruct routes to areas within or outside the watershed that are critical for fulfilling life history requirements of aquatic and riparian-dependent species.

**ACS Objective 3.** Maintain and restore the physical integrity of the aquatic system, including shorelines, banks, and bottom configurations.

**Pathways/Indicators Used in BA Effects Matrix:**

| | |
|---|---|
| Watershed Conditions/Road Density and Location | Watershed Conditions/Riparian Reserves |
| Channel Conditions/Dynamics/Width/Depth Ratio | Channel Conditions/Streambank Condition |
| Channel Conditions/Dynamics/Floodplain Connectivity | Habitat Elements/Substrate |
| Habitat Elements/Large Woody Debris | Habitat Elements/Off-Channel Habitat |
| Habitat Elements/Pool Frequency | Habitat Elements/Pool Quality |

The physical integrity of the aquatic system and more specifically streambank stability would be maintained by refraining from any harvest or road construction activities in or through RR. No road construction or decommissioning is planned with this action in RR. Road density would be unchanged.

**ACS Objective 4.** Maintain and restore water quality necessary to support healthy riparian, aquatic, and wetland ecosystems. Water quality must remain within the range that maintains the biological, physical, and chemical integrity of the system and benefits survival, growth, reproduction, and migration of individuals composing aquatic and riparian communities.

**Pathways/Indicators Used in BA Effects Matrix:**

| | |
|---|---|
| Water Quality/Chemical Contamination/Nutrients | Water Quality/Temperature |
| Water Quality/Sediment/Turbidity | Watershed Conditions/Riparian Reserves |

No road or harvest activities are planned within RR, so overland sediment filtration, riparian microclimate, and current stream temperatures will be maintained and recruitment of LWD will continue. Continued growth in the RR will result in development of late-successional habitat and contribute to watershed restoration over time.

**ACS Objective 5.** Maintain and restore the sediment regime under which aquatic ecosystems evolved. Elements of the sediment regime include the timing, volume, rate, and character of sediment input, storage, and transport.

**Pathways/Indicators Used in BA Effects Matrix:**

| | |
|---|---|
| Flow/Hydrology/Change in Peak Flow/Base Flow | Water Quality/Sediment/Turbidity |
| Flow/Hydrology/Increase in Drainage Network | Habitat Elements/Substrate |
| Habitat Elements/Pool Quality | Watershed Conditions/Disturbance History |
| Watershed Conditions/Road Density and Location | Watershed Conditions/Riparian reserves |

The potential exists for a short term (1 year) increase in sedimentation arising from the proposed activities at the 7th field level. Project design features have been developed to minimize the potential of sediment to move from the upslope, roads, and/or bare soil areas into streams. Sediment impacts from the proposed project would be minimized by applying BMP and project design features (i.e. summer harvest, summer haul, and temporary road construction on flat, ridge top locations). Sedimentation may occur at stream crossings along the haul route during summer storm events. The amount of sediment that may reach these streams from the proposed timber harvest, road maintenance, timber haul, and temporary road construction activities would be considered minor and would have negligible impacts on the fisheries resource located downstream of these activities. Any potential impact to the sediment regime would be localized at the project level and not effect the 5th or

6th field levels. A "potentially" unstable area near unit A was protected by extending the RR. This will maintain water interception in the canopy cover and vegetative root strength, minimizing the slide potential in the RR below. The absence of harvest in RR, required directional falling of timber away from RR, prohibiting timber yarding across streams, and the absence of any culvert replacement or road decommissioning in RR will further minimize 7th field effects. See ACS objective #1 for the effects of this action on the disturbance history indicator.

**ACS Objective 6.** Maintain and restore in-stream flows sufficient to create and sustain riparian, aquatic, and wetland habitats and to retain patterns of sediment, nutrient, and wood routing. The timing, magnitude, duration, and spatial distribution of peak, high, and low flows must be protected.

Pathways/Indicators Used in BA Effects Matrix:

| | |
|---|---|
| Flow Hydrology/Change in Peak Flow/Base Flow | Water Quality/Sediment/Turbidity |
| Flow Hydrology/Increase in Drainage Network | Habitat Access/Physical Barriers |
| Channel Conditions/Dynamics/Floodplain Connectivity | Habitat Elements/Large Woody Debris |
| Habitat Elements/Pool Quality | Habitat Elements/Off-Channel Habitat |

There would likely be no significant changes in the timing, magnitude, duration, and spatial distribution of peak, high, and low flows since a minimum of 50% of the upland canopy would be retained, the project area comprises <1% of the watershed, and is distributed through three drainages. Any long-term (> 1 year) changes would be minimized by tilling temporary spurs. The RR would buffer any changes to the current sediment regime and hydrologic processes. The current road density would not be increased, so the drainage network would not change. This objective would be maintained at the 7th field and subsequently at the 6th and 5th fields.

**ACS Objective 7.** Maintain and restore the timing, variability, and duration of floodplain inundation and water table elevation in meadows and wetlands.

**Pathways/Indicators Used in BA Effects Matrix:**

Channel Conditions/Dynamics/Floodplain Connectivity
Flow Hydrology/Change in Peak Flow/Base Flow
Flow Hydrology/Increase in Drainage Network

No meadows or wetlands were identified in this project area. No activities would occur in RR, so existing channel conditions and flow patterns would be maintained.

**ACS Objective 8.** Maintain and restore the species composition and structural diversity of plant communities in riparian areas and wetlands to provide adequate summer and winter thermal regulation, nutrient filtering, appropriate rates of surface erosion, bank erosion, and channel migration and to supply amounts and distributions of coarse woody debris sufficient to sustain physical complexity and stability.

**Pathways/Indicators Used in BA Effects Matrix:**

| | |
|---|---|
| Channel Conditions/Dynamics/Floodplain Connectivity | Channel Conditions/Streambank Condition |
| Channel Conditions/Dynamics/Width/Depth Ratio | Habitat Elements/Large Woody Debris |
| Habitat Elements/Off-Channel Habitat | Habitat Elements/Substrate |
| Habitat Elements/Pool Frequency | Watershed Conditions/Riparian Reserves |
| Water Quality/Chemical Contaminants/Nutrients | Water Quality/Temperature |
| Water Quality/Sediment/Turbidity | |

There would be no disturbance in RR and there are no wetlands identified in the project area. Plant communities in the RR would not be altered. Continued development of late-successional habitat in the RR will contribute to watershed restoration over the long-term. The proposed action is not expected to measurably change the current thermal regime at the site or in the watershed over the short-term (3-5 years). Over the long-term (>5 years) as more early to mid-successional stands develop, the current thermal regime may begin to approximate a historic, cooler thermal regime. By establishing the RR network, adequate summer and winter thermal regulation, nutrient filtering, appropriate rates of surface erosion, bank erosion, channel migration, and coarse woody debris recruitment are expected to be maintained in the short-term and restored through natural recovery over the long-term.

**ACS Objective 9.** Maintain and restore habitat to support well-distributed populations of native plant, invertebrate, and vertebrate riparian-dependent species.

**Pathways/Indicators Used in BA Effects Matrix:**

| | |
|---|---|
| Channel Conditions/Dynamics/Width/Depth Ratio | Channel Conditions/Streambank Condition |
| Channel Conditions/Dynamics/Floodplain Connectivity | Watershed Conditions/Riparian Reserves |
| Water Quality/Temperature | Water Quality/Sediment/Turbidity |
| Water Quality/Chemical contamination/Nutrients | Habitat Access/Physical Barriers |
| Habitat Elements/Off-Channel Habitat | Habitat Elements/Refugia |
| Habitat Elements/Substrate | Habitat Elements/Pool Frequency |
| Habitat Elements/Pool Quality | Habitat Elements/Large Woody debris |

The project would contribute to the restoration of habitat accelerating development of late-successional forest characteristics in the upland areas used during a portion of their life cycle.. Existing known sites of special attention species would be protected from microsite changes by retention of a high level of canopy closure, retention of hardwoods and down wood throughout the thinned stands.

**Other Federal Actions Planned in the Middle Fork Coquille Watershed**

| Project Name | Acres | Road mi. decommissioning. | Road mi. constructed |
|---|---|---|---|
| Ragu Timber Sale | 143 | 1.04 | 0.07(semi-perm) |
| Smoke Signal Commercial Thinning | 150 | 1.33 (7,032 ft.) | 0.00 |
| Burma Shave Commercial Thinning | 102 | 0.17 (825 ft.) | 0.15(permanent) |
| Deep Creek Road Restoration | N/A | 0.43 | 0.00 |
| Bee Tree Ridge Road Restoration | N/A | 0.00 | 0.00 |

# APPENDIX D

## SPECIAL ATTENTION PLANTS SUSPECTED TO OCCUR IN THE PROJECT AREA

Protection Buffer and Survey & Manage

Fungi
*Aleuria rhenana*
*Bondarzewia montana*
*Otidea leporina*
*Otidea onotica*
*Otidea smithii*
*Polyozellus multiplex*
*Sarcosoma mexicana*

Lichens
*Hypogymnia duplicata*
*Lobaria linita*
*Pseudocyphelleria rainierensis*

Bryophytes
*Buxbaumia viridis*
*Diplophyllum plicatum*
*Kurzia makinoana*
*Rhizomnium* nudum
Tetraphis geniculata
*Tritomaria exsectiformis*
*Ulota megalospora*

Vascular Plants
*Allotropa virgata*

# APPENDIX E

## CRITICAL ELEMENTS OF THE HUMAN ENVIRONMENT

The following elements of the human environment are subject to requirements specified in statute, regulation, or executive order. These resources or values are either **not present** or **would not be affected by the proposed actions or alternative** unless otherwise described in this EA. This negative declaration is documented below by individuals who assisted in the preparation of this analysis.

| ELEMENT | NOT PRESENT | NOT AFFECTED | IN TEXT | INITIALS | TITLE |
|---|---|---|---|---|---|
| Air Quality | | | | | |
| Areas of Critical Environmental Concern | | | | | |
| Cultural Resources | | | | | |
| Environmental Justice | | | | | |
| Farm Lands (prime or unique) | | | | | |
| Floodplains | | | | | |
| Native American Religious Concerns | | | | | |
| Non-Native, Invasive Species | | | | | |
| Threatened Endangered Wildlife Species | | | | | |
| Threatened or Endangered Plant Species | | | | | |
| Wastes, Hazardous or Solid | | | | | |
| Water Quality Drinking/Ground | | | | | |
| Wetlands/Riparian Zones | | | | | |
| Wild & Scenic Rivers | | | | | |
| Wilderness | | | | | |